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Reactogenicity and immunogenicity of a third yeast-derived hepatitis B vaccine (Cilag CC 2572-P-101). M. Gesemann (1), N. Scheiermann (2), N. Friedmann (3), Isabelle Mirman (3). (1) Inst. f. Med. Virology & Immunology, University of Essen Medical School, 4300 Essen; (2) Inst. f. Laboratory Med., Municipal Hospital Heilbronn (Head: Prof. Dr. C. Maurer), 7100 Heilbronn, FRG; (3) Johnson & Johnson Biotechnology Center, La Jolla, CA 92038, USA.

To determine the efficacy of a new recombinant hepatitis B vaccine (Cilag CC 2572-P-101) 52 persons (age 19-39 years) without serologic hepatitis B markers were randomly allocated to receive doses of 10 mcg and 20 mcg of the yeast-derived (group I: n=17, group II: n=17, resp.) and 20 mcg doses of a commercially available plasma-derived vaccine (group III: n=18; MSD). Vaccinations were given intramuscularly in the deltoid region at months 0, 1, and 6. Each time side effects were recorded by the vaccinees during the following 5 days. At months 1, 2, 6, 7, and 12 blood samples were taken and tested for anti-HBs serum concentrations. Only local side effects and no major reactions attributable to vaccination were recorded. Seroconversion was quickest in group III for months 1 and 2 (44 % and 89 %, resp.) but was identical for all 3 groups at month 6 (94 %). Geometric mean titers (GMT) were also highest in group III up to month 6 but showed no significant differences at month 7 (I: 1156 IU/l, II: 2594 IU/l, III: 1950 IU/l). Except for one in each group, all vaccinees reached antibody levels over 10 IU/l by month 7 (immunity 94 %). At month 12, anti-HBs levels showed mean decreases from 2.4-fold (III) to 3.7-fold (I). These findings suggest that this new recombinant hepatitis B vaccine is safe and immunogenic in man and comparable to a plasma-derived vaccine.

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Focal Herpes Simplex Virus Type 1 (HSV-1) Encephalitis (HSE) of the Olfactory System: A Primary Infection Rabbit Model of Human Disease. RJ Wanklin, JM Holden, H Neyndorff, SL Sacks. The University of British Columbia Department of Medicine, Vancouver, BC, Canada.

In order to improve our ability to predict the efficacy of antiviral agents or the utility of invasive or noninvasive diagnostic tests in HSE, it would be desirable to have an animal model which closely parallels human disease, unhampered by requirements for immunosuppression, physical disturbance of the blood-brain barrier during inoculation, diffuse encephalitic involvement, and/or predominant infection of the trigeminal system. To circumvent these problems, we have established a New Zealand White Rabbit model of primary HSE using catheter inoculation of the nasal passages of 23 rabbits with 10^7 $TCID_{50}$/0.1 ml of HSV-1 (KOS). Cultures of brain tissue homogenates taken at the time of sacrifice from 2 to 9 days post-infection were positive earlier than histologic changes in corresponding sections, i.e. by day 2 in the olfactory bulb (OB) and trigeminal ganglion (TG) and by day 3 in the olfactory tract (OT) and the temporal lobe (TL), compared with histologic changes of HSE by day 3 in the TG, but not until day 5 in the OB and day 8 in the OT and TL. Histopathologically, 27.6% of field hits in the TL were positive for viral changes by the eighth day of infection. Macroscopic focal hemorrhagic lesions were visible only in the OB (by day 4) and on the inferior surface of the TL (by day 7). We conclude that this model allows for investigations of focal HSE in the TL as a result of primary infection of the olfactory system, without the necessity of surgical disruption of the blood-brain barrier. This model may be used to enhance our ability to predict the efficacy of newer therapeutic agents and invasive or noninvasive diagnostic tests.